

Applicant : Roland Egon Ryter
Application No. : 10/577,978
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For : APPARATUS FOR DETERMINING A FREQUENCY OFFSET
ERROR AND RECEIVER BASED THEREON

Examiner : Phuong M. Phu
Art Unit : 2611
Docket No. : 853663.418USPC
Date : April 2, 2009

Examiner Phu:

Please find attached hereto proposed claim amendments.

The amendments to claims 1-4, 7-13, and 15 are being presented to correct clerical errors that were introduced by way of Applicant's Preliminary Amendment. In particular, punctuation marks were inadvertently deleted in the Preliminary Amendment.

The amendment to claim 14, is the one to which I referred to during our telephone conversation. I would like to amend claim 14 to explicitly recite the limitations of claim 1.

The Power of Attorney covers practitioners at Seed IP Law Group PLLC associated with customer number: 38106. I am such an attorney, and my registration number is 47,028.

I appreciate your taking the time to review this. If you have any questions please feel free to contact me.

Eric M. Ringer

Registration No. 47,028

Phone: (206) 622-4900

Fax: (206) 682-6031

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DRAFT CLAIMS – NOT TO BE ENTERED INTO THE FILE**Proposed Amendments to the Claims:**

1. (Currently Amended) Apparatus for determining a frequency offset error, comprising an input for receiving a digitally coded frequency demodulated signal, said frequency demodulated signal being processed by

- digital means for performing a correlation in order to determine whether a correlation criterion is fulfilled, and

- digital means for performing a minimum-maximum evaluation in order to determine whether a minimum-maximum criterion are fulfilled, said apparatus further comprising digital processing means to calculate the current offset of the frequency demodulated signal and to cancel the current offset if both criteria are fulfilled.

2. (Currently Amended) The apparatus of claim 1, wherein the digital means for performing a correlation comprise a correlator, a peak detector and a comparator.

3. (Currently Amended) The apparatus of claim 1, wherein the digital means for performing a minimum-maximum evaluation comprise two subtractors and two comparators.

4. (Currently Amended) The apparatus of claim 1, wherein the digital processing means comprise an average detector, an offset register, and an offset compensator to subtract the current offset stored in the offset register from the frequency demodulated signal.

5. (Previously Presented) The apparatus of claim 1, wherein the digital means for performing a correlation and the digital means for performing a minimum-maximum evaluation both provide signals to the digital processing means in order to cause the digital processing means to cancel the current offset.

6. (Previously Presented) The apparatus of claim 1, comprising two comparators serving as limiters followed by building blocks arranged to extract said frequency demodulated signal from a frequency shift keyed modulated signal.

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7. (Currently Amended) The apparatus of claim 1 wherein the digital means for performing a correlation correlate the frequency demodulated signal with a time-limited sine wave signal, and determine whether the result of this correlation exceeds a certain threshold.

8. (Previously Presented) The apparatus of claim 1, wherein the digital means for performing a correlation provide an output signal indicating that the a criterion for a known sequence is fulfilled.

9. (Currently Amended) The apparatus of claim 1, wherein the digital means for performing a minimum-maximum evaluation determine whether expected peaks of positive and negative half-waves of the frequency demodulated signal have predefined distances.

10. (Previously Presented) The apparatus of claim 1, wherein the digital means for performing a minimum-maximum evaluation calculate two subtractions in order to compare four received symbols with corresponding amplitudes.

11. (Previously Presented) The apparatus according to claim 1, wherein the frequency demodulated signal is a digital coded signal.

12. (Currently Amended) The apparatus of claim 4, wherein the offset compensator is employed in order to continuously subtract a value stored in the offset register from the frequency demodulated signal.

13. (Previously Presented) The apparatus of claim 4, wherein the average detector is a sliding average detector that continuously generates a mean value of the frequency demodulated signal.

14. (Currently Amended) A receiver ~~Receiver~~ comprising:
an apparatus ~~according to claim 1~~ for determining a frequency offset error, the apparatus including:

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an input for receiving a digitally coded frequency demodulated signal, said frequency demodulated signal being processed by,

digital means for performing a correlation in order to determine whether a correlation criterion is fulfilled, and

digital means for performing a minimum-maximum evaluation in order to determine whether a minimum-maximum criterion are fulfilled, said apparatus further comprising digital processing means to calculate the current offset of the frequency demodulated signal and to cancel the current offset if both criteria are fulfilled.

15. (Currently Amended) The receiver of claim 14, comprising an analog front-end and a digital back-end, said apparatus for determining a frequency offset error being part of said digital back-end.

16. (Previously Presented) The receiver of claim 14 being designed to receive and process FSK or GFSK modulated antenna signals.

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